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An Overview of USGS Acoustic Telemetry Studies

Abstract: The USGS has been studying juvenile salmon outmigration through the delta using acoustic telemetry techniques since 2007. At that time, the California Water Science Center (CAWSC) began working with the Columbia River Research Lab (CRRL) to bring acoustic telemetry technologies and analytical approaches to the delta. These approaches had been pioneered by the CRRL in the Columbia River basin throughout the previous decade. In this talk, we will briefly describe the field experiments we've been conducting over the past few years using acoustically tagged juvenile salmon and then will summarize preliminary highlights from these investigations. The highlights include, (1) what we've learned about day/night salmon behaviors from data collected at Clarksburg Bend in 2007 and the preliminary analysis of 2008/09 data collected at the Delta Cross Channel, and (2) what we've learned about reach specific survival of out migrating salmon and route entrainment, including the possibility of discharge dependent survival in the north delta and its relevance to BDCP and other planning processes.

Statement of Relevance: Water management actions affect both quantity and distribution of river flow among the Delta's complex network of channels. Understanding the response of juvenile salmon to water flow and distribution is critical for quantifying the effect of water management actions on endangered juvenile salmonids.